

Appl. No.: 10/034,180
Attorney Docket No. 10541-798
Reply to Final Office Action of February 26, 2004

I. Listing of the Claims:

1. Cancelled.

2. (Currently amended): The torque controller of Claim 32 ~~Claim 4~~, wherein the amount of work from said second transfer assembly and said second output shaft is greater than the amount of work from said first transfer assembly.

3 - 16. Cancelled.

17. (Currently Amended): The torque controller of Claim 32 ~~Claim 14~~, further comprising means for monitoring power applied by said the first output shaft and said first transfer assembly to said the torque difference source and by said the torque difference source to said the second transfer assembly and said second output shaft.

18. (Currently Amended): The torque controller of Claim 32 ~~Claim 14~~, wherein the means for monitoring power are selected from the group consisting of a computer, a microprocessor, a digital signal processor, an engine electronic controller, an engine control unit, a brake controller, an anti-lock brake controller, and a traction control system.

19 - 31. Cancelled.

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32. (Previously Presented): A torque controller adapted to control comprising:

a differential having first and second output shafts extending therefrom, each of said first and second output shafts having an interface mounted thereon;

a first transfer assembly and a second transfer assembly, said first transfer assembly engaging said interface of said first output shaft and said second transfer assembly engaging said interface of said second output shaft such that rotational motion is transferred and redirected between said first output shaft and said first transfer assembly and said second output shaft and said second transfer assembly;

said transfer assemblies each including a gear train adapted to change the ratio of speed between said transfer assembly and said output shafts to either speed up or slow down the rotation transferred therebetween;

a torque difference source positioned between and interconnection said first and second transfer assemblies, said torque difference source including an inner rotor, an outer rotor, and a plurality of vanes positioned therebetween, said outer rotor engaging said first transfer assembly such that rotational motion is transferred between said first output shaft and said outer rotor through said first transfer assembly, said inner rotor engaging said second transfer assembly such that rotational motion is transferred between said second output shaft and said inner rotor through said second transfer assembly,

a power source adapted to pump hydraulic fluid between said inner and outer rotors, thereby inducing drag between said inner and outer rotors;

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at least two sensors, said sensors being adapted to measure the difference in rotational speed of said first and second output shafts and thereby the relative power output of said first and second output shafts; and

an electronic controller adapted to receive a signal from said sensors and to selectively actuate said power source to provide hydraulic fluid between said inner and outer rotors.

33. (Previously Presented): The torque controller of claim 32 wherein said sensors are positioned to directly measure the rotational speed of said first and second output shafts.

34. (Previously Presented): The torque controller of claim 32 wherein said sensors are positioned to measure the rotational speeds of said inner and outer rotors, said controller being adapted to calculate the relative rotational speeds of said output shafts from the rotational speeds of said inner and outer rotors.